

137-58-1-1787

An Investigation of Wear in Metals and Alloys (cont.)

hardness H. Confirmation is obtained for the previously-derived laws governing the relationship of  $\epsilon$  and H for technically pure metals and heat-treated steel, with the exception of Si, the  $\epsilon$  of which prove to be 91 percent smaller than should have been the case with metal having that H. In the case of the work-hardened metals and alloys,  $\epsilon$  remains practically the same as for the annealed state, despite the elevated H due to work-hardening. The direct relationship between  $\epsilon$  and H found in the case of the pure metals is also valid for certain metal carbides. In the case of structurally non-homogeneous metallic materials, differing widely as to the properties of the elements composing them,  $\epsilon$  is significantly lower than that corresponding to the same H for pure metals. See also RzhMet, 1956, Nr 9, abstract 9367.

A. M.

1. Steels--Friction--Resistance    2. Steels--Test methods    3. Steels--Test results

Card 2/2

SOV/137-57-6-11123

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 6, p 248 (USSR)

AUTHORS: Khrushchov, M.M., Babichev, M.A.

TITLE: Investigation of the Effect of Hardness of the Abrasive on the Wear  
of Metals (Issledovaniye vliyaniya tverdosti abrasiva na iznos  
metallov)

PERIODICAL: Treniye i iznos v mashinakh. Nr 11. Moscow, AN SSSR, 1956,  
pp 19-26

ABSTRACT: To clarify the problem posed an investigation was conducted on  
the wear ( $W$ ) of specimens of U8-grade steel, quenched and tempered  
to a hardness  $H$  from 186 to 795 kg/mm<sup>2</sup> upon friction on electro-  
corundum (grain size 180 and 170,  $H$  of the grains 2290) and abrasive  
glass papers (grain size 180,  $H$  585). The specimens were given a  
spiral movement over the surface of the sandpaper which ensured  
continual rubbing over a fresh surface.  $W$  was determined by mea-  
suring the length of the specimen. The ratio of the  $W$  of the standard  
specimen (40-grade steel with an  $H$  of 162) to the  $W$  of the specimen  
yields the value for the wear resistance  $\epsilon$ . It is established that:  
1)  $\epsilon$  of specimens possessing an  $H$  equal to 186, 240, and 286

Card 1/2

SOV/137-57-6-11123

Investigation of the Effect of Hardness of the Abrasive on the Wear of Metals

$\text{kg/mm}^2$  upon rubbing over abrasive glass paper is equal to  $\epsilon$  of specimens rubbed over corundum sandpaper. Therefore, if  $H$  of the abrasive is  $> H$  of the steel, then  $W$  has no relation to the difference in the hardness of the abrasive and of the steel; 2)  $\epsilon$  of the specimen having an  $H$  of 486 is somewhat higher, i.e., if  $H$  of the steel  $< H$  of the abrasive, but close to it, then  $W$  decreases. Therefore, if  $H$  of steel is 615 and 795,  $\epsilon$  of steel increases greatly, and when  $H$  of the metal  $> H$  of the abrasive, then  $W$  takes place, which fact is explained by the geometrical shape of the grains of the abrasive. In the above case  $W$  is dependent upon the difference in the hardness of the metal and of the abrasive and decreases rapidly with its increase.

P.S.

Card 2/2

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Babichev M.A.

28(5) ✓

PHASE I BOOK EXPLOITATION

SOV/2632

Akademiya nauk SSSR. Institut mashinovedeniya

Treniye i iznos v mashinakh; sbornik XII (Friction and Wear in Machines; Collection 12) Moscow, Izd-vo AN SSSR, 1958. 354 p. Errata slip inserted. 4,000 copies printed.

Ed.: M.M. Khrushchov, Professor; Ed. of Publishing House: M.A. Babichev; Tech. Ed.: Ye.V. Zelenkova; Editorial Board: Ye.M. Gut'yar, Professor, A.K. D'yachkov, Professor, I.V. Kragel'skiy, Professor, A.D. Kuritsyna, Candidate of Technical Sciences, L.Yu. Pruzhanskiy, Candidate of Technical Sciences, and M.M. Khrushchov, Professor.

PURPOSE: This book is intended for scientists, engineers, and technicians in the field of machine manufacture and operation, and for instructors in schools of higher education (vuzes).

COVERAGE: This collection of articles presents the results of new investigations in the field of wear, friction, and

Card 1/8

## Friction and Wear in Machines (Cont.)

SOV/2632

lubrication. The subjects discussed include structural changes in the surface layer of metals in friction, development of friction-brake materials, and theoretical investigations in the field of dry friction and friction with boundary and complete friction. For the abstract of each article see the Table of Contents. A bibliography of Soviet and non-Soviet materials on friction, wear and lubrication for 1954-55 prepared by Ye.O. Vil'dt is included.

## TABLE OF CONTENTS:

Preface	3
Khrushchov, M.M., and <u>M.A. Babichev.</u> Abrasive Wear Resistance of Structurally Nonhomogeneous Materials	5
The relationship between wear resistance of structurally nonhomogeneous materials and the number and wear resistance of individual structural elements was investigated.	

Card 2/8

Friction and Wear in Machines (Cont.)

SOV/2632

Khrushchov, M.M., and M.A. Babichev. Investigating Wear of Steels in the Presence of Water on Friction Surfaces

The authors present results of experiments on the effect of properties of aqueous media on the wear of steels at various wear intensities,

27

Toporov, G.V. Effect of the Structure of Cast Iron on Its Abrasive Wear

The author describes a new method and gives the results of an abrasive wear test of cast iron having various graphite and metallic base structures. The method described is based on the "mutual grinding" of the specimen tested and a standard piece. The degree of wear is determined by accurate weighing.

42

Grozin, B.D., and V.N. Semirog-Orlik. Investigating the Condition of the Surface Layer of Metal Using an Electron Microscope

64

Card 3/8

SOV/137-59-3-6393

Translation from: Referativny zhurnal Metallurgiya. 1959, Nr 3, p 208 (USSR)

AUTHORS: Khrushchov, M. M., Babichev, M. A.

TITLE: An Investigation of Wear in Steel in the Presence of Water on the Friction Surfaces (Issledovaniye iznashivaniya stalej v prisutstvii vody na poverkhnosti treniya)

PERIODICAL: V sb.: Treniye i iznos v mashinakh. Nr 12, Moscow, AN SSSR, 1958, pp 27-41

ABSTRACT: The effect of water with various substances dissolved therein on the wear ( $W$ ) of steels of the 35 and 18Kh9N grades was investigated under laboratory conditions. Testing was performed without any abrasives on a Kh2 machine in which a rotating disk made of a super-hard alloy is pressed against the flat surface of a specimen; the volume of the wear area thus formed serves as a measure of the  $W$ . The disk and the specimens were submerged into a bath with water from one of the following sources: River water (RW), water from the Moscow municipal water supply (MW), distilled water (DW), and distilled water containing 0.5%  $K_2Cr_2O_7$ . It was determined that the  $W$  of steel is greatly influenced by the origin of the water. Thus

Card 1/2

SOV/137-59-3-6393

An Investigation of Wear in Steel in the Presence of Water (cont.)

the values of W of steel 35 in MW, RW, and DW form the following ratios: 1:1.2:34.2. The RW changes its properties in storage: After a period of 240 hours, the W of steel 35 increased by 18.5 times. MW also changes its properties in storage; only the DW proved to be very stable. The W of steel 18Kh9N in fresh MW is 5 times greater than that of steel 35, whereas in DW its W is 46 times lower. The W is also a function of the concentration of hydrogen ions (pH). Abrasive W tests were conducted on a machine of the type Kh4-B in which the specimen is eroded by a water-resistant abrasive cloth. It was established that in the majority of instances the W is somewhat reduced in the presence of water, whereas the wear resistance of steel G13L in the presence of water is increased by 30%. In the course of the testing the properties of the aqueous medium had no effect upon the W of the steels. The intensity of the W is a criterion of the transition from abrasive to corrosion-mechanical W; it is in this latter form of W that the properties of the aqueous medium become noticeable. Wear testing of steel L53 employed in the production of ploughshares demonstrated that the intensity of abrasive W is 510 times as great as the W produced upon friction against a smooth disk. The effect of the properties of soil solutions on the W of ploughshares is governed by the abrasive characteristics of the soils; thus, in the case of podzolic soils, the wear constitutes 0.002-0.006  $\mu/m$ ; whereas in the case of sandy soils it amounts to 0.006-0.024  $\mu/m$ . Bibliography 5 references.

A S

Card 2/2

SABUHEV, MA.

REF ID: A9512  
 Author(s): Grushchov, M. M.; Babichov, M. A.; Chalogenidze, Sh. I.  
 Title: New Method of Determining the Abrasion Resistance of Galvanized  
 Layer Deposited Metals (Study metal deposit (monocrystalline gal-  
 vanocheli osazhennykh stali))

Periodicals:  
 Zavodskaya laboratoriya, 1959, Vol. 25, Nr. 7, pp. 672-675 (1958)

Abstract:  
 A method is given for determining the abrasion resistance of galvanized layers deposited by electrolytic deposition on steel. In this connection the abrasive action of the metal deposits obtained from various electrolytes is investigated. The abrasion method on the machine Kh-2 (Institute of Machine Construction of the AS SSSR) (see 2), a most favorable for determining the abrasion resistance (AM) of galvanic deposits. The application of this method by means of the machine Kh-2 (Fig. 1 diagram) for the determination of the (AM) of iron deposits from different baths is described. Tempered steel 9Kh3 and the lead-tin alloy 36 were used as standard. Sh. I. Chalogenidze deposited iron from the following

Card 1/3

three baths: bath Nr 1 with iron containing hydrofluoric acid; bath Nr 2 with boric acid and hydrofluoric acid; bath Nr 3 with iron, phenol, malonate and phenolmalonic acid. The temperature of the baths was 40°, current density 5 and 6 A/cm<sup>2</sup>, thickness of the deposits obtained 0.45-0.51, 0.50 and 0.45 mm. The deposition took place on steel plates of size 100x100x3 mm. Before the abrasion test the samples of the deposits were washed in dilute sulfuric acid and dried. The testing results obtained show that the abrasion (AM) was not observed with the greatest hardness. The hardness of the deposits obtained from bath Nr 2 increased by 10% on comparing the deposit, whereas the increased hardness of the deposits from bath Nr 1 is caused by an alloy of iron with hydrogen. Various explanations are given by different authors. There are 3 figures and 4 Soviet references.

Association: Institut mekhanicheskogo i elektrosvarkivaniya Akademii nauk SSSR i Gruzinskogo nauchno-tekhnicheskogo instituta po selenizatsii i elektrosvarkivaniyu sel'skogo khozyaistva

Card 2/3

Institute of Machine Construction of the Academy of Sciences  
 of the USSR and Georgian Institute of Mechanization and  
 Electrification of Agriculture)

Card 3/3

Babich, M. A.

PHASE I BOOK EXPLOITATION

SOV/3948

Akademiya nauk SSSR. Institut mashinovedeniya

Treniye i iznos v mashinakh; sbornik XIV (Friction and Wear in Machinery; Collection of Articles, no. 14) Moscow, Izd-vo AN SSSR, 1960. 333 p. Errata slip inserted. 3,000 copies printed.

Resp. Ed.: M. M. Khrushchov, Doctor of Technical Sciences, Professor; Ed. of Publishing House: V. A. Giryayeva; Tech. Ed.: G. A. Astaf'yeva; Editorial Board: Ye. M. Gut'yar, Doctor of Technical Sciences, Professor; A. K. D'yachkov, Doctor of Technical Sciences, Professor; I. V. Kragel'skiy, Doctor of Technical Sciences, Professor; A. D. Kuritsyna, Candidate of Technical Sciences; L. Yu. Pruzhanskiy, Candidate of Technical Sciences; and M. M. Khrushchov, Doctor of Technical Sciences, Professor.

PURPOSE: The book is intended for scientific research workers and designers in the machine industry.

COVERAGE: The recent works of Soviet scientists on the subject of friction and wear in machinery are presented. Problems discussed include abrasive wear, the real  
Card 1/5

## Friction and Wear in Machinery (Cont.)

sov/3948

area of contact surface, wear resistance and antifriction properties of some bronze and brass materials, the effect of hot jets of gases on surface layers of steel, and seizure and movements of journals in bearings. Brief biographical sketches and bibliographies of the works of Ye. M. Shvetsova, V. F. Lorents, and L. V. Yelin are presented. Bibliographies on friction, wear, and lubrication for 1956 and 1957 compiled by Ye. O. Vil'dt are also presented. References accompany several of the articles.

## TABLE OF CONTENTS:

Foreword	3
<u>Babichev, M.A.</u> . Investigation of Abrasive Wear of Metals According to the Brinell Method	5
Kragel'skiy, I.V., and N.B. Demkin. Determination of the True Area of a Contact Surface	37
Lomakin, V.S., and V.I. Savchenko (Deceased). Investigation of Wear Resistance of Enamel Coatings as Applied to the Life [Extension] of Machine Parts	63

Card 2/5

KHRUSHCHOV, Mikhail Mikhaylovich; BABICHEV, Mikhail Alekseyevich;  
BLAGONRAVOV, A.A., akademik, otv.red.; BELYANIN, P.N.,  
red.izd-va; MAKUNI, Ye.V., tekhn.red.

[Investigating the wear of metals] Issledovaniia iznashivaniia metalla.  
Moskva, Izd-vo Akad.nauk SSSR, 1960. 350 p.  
(MIRA 13:7)

1. Direktor Instituta mashinovedeniya AN SSSR (for Blagonravov).  
(Mechanical wear)

3/711/60/014/000/001/013  
D262/D301

18.5.766

AUTHOR: Babichev, N.A.

TITLE: Investigating abrasive wear of metals by the Brinell method

SOURCE: Akademiya nauk SSSR. Institut mashinovedeniya. Treniye i iznos v mashinakh, v. 14, 1960, 5 - 36

TEXT: The purpose of the investigations, conducted at the Institute of Machine Science of AS USSR, was to explain the causes of the differences in the results of the earlier investigations by the Brinell method and by the methods designed by M.M. Khrushchov and the author, and also to investigate the phenomena of wear in the presence of free abrasive particles during dry sliding friction for various combinations of metal properties. A new testing machine, similar to that for Brinell tests was designed. The following tests were carried out: 1) Consumption of abrasives; 2) The effect of the testing conditions (load, length of testing time, quality and hardness of abrasives used on the test results; 3) Wear of steels of various

Card 1/2 X

Investigating abrasive wear of ...

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D262/D301

hardness; 4) Investigation of pure metals, various steels, hard alloys and minerals. Conclusions: 1) The Brinell method can be successfully applied for wear tests of hard alloys and minerals, and in general, hard and brittle materials. To obtain correct results the abrasive used should be much harder than the material investigated and the hardness of standard gauge should be approximately the same as hardness of the material. 2) Increase in steel hardness lowers its wear, but the max. hardness obtained by hardening without tempering in effect increases its wear which is probably connected with the effect of internal stresses. 3) Increase in consumption of abrasives does not increase wear, and increase in size and hardness increases wear, only to a certain point. 4) Wear evaluation by the Brinell method is less accurate than by the methods designed by M.N. Khrushchev and M.A. Babichev. There are 21 figures 12 tables and 3 Soviet-bloc references.

Card 2/2

KHRUSHCHOV, M.M.; BABICHEV, M.A.

Analysis of the method of testing for microhardness by scratch-ing according to Bierbaum. Zav.lab. 26 no.1:82-87 '60,  
(MIRA 13:5)

1. Institut mashinovedeniya Akademii nauk SSSR.  
(Metals--Testing) (Hardness)

BABICHEV, M.A.

Method of finishing the abrasive surfaces of discs. Zav.lab. 26  
no.3:337-340 '60. (MIRA 13:6)

1. Institut mashinovedeniya Akademii nauk SSSR.  
(Steel--Testing) (Abrasion)

S/020/60/131/06/25/071  
B014/B007

AUTHORS: Khrushchov, M. M., Babichev, M. A.

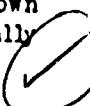
TITLE: The Resistance to Abrasive Wear<sup>1/2</sup> and the Modulus of Elasticity<sup>1/2</sup> of Metals and Alloys

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 131, No. 6, pp. 1319 - 1322

TEXT: By way of introduction the authors refer to several of their own papers (Refs. 1-4), in which the relative resistance to wear of various technically pure metals was investigated. This relative resistance to wear  $\epsilon$  was determined on standards of a lead-tin alloy, and was found to be proportional to Vickers hardness  $H_V$ . The relation  $\epsilon = 0.137H_V$  is given. For silicon and germanium the relation  $\epsilon = 0.012H_V$  was found, which holds also for a number of other minerals.

According to the opinion of B. M. Rovinskiy (Ref. 5) the properties of the metals are functions of lattice stiffness. Analyses showed the dependence of the relative resistance to wear on the square of the modulus of elasticity. From previously published experimental results obtained by the authors, the diagram shown in Fig. 1 was constructed, in which the relative resistance to wear is graphically

Card 1/3



The Resistance to Abrasive Wear and the Modulus of  
Elasticity of Metals and Alloys

S/020/60/131/06/25/071  
B014/B007

represented as dependent on the logarithm of the modulus of elasticity. Herefrom the approximation  $\varepsilon = 0.49 \cdot 10^{-4} E^{1.3}$  was obtained. In Fig. 2 the dependences of Vickers hardness of the relative resistance to wear and of the modulus of elasticity upon the composition of the system Cu-Ni, and in Fig. 3 on the composition of the system Pb-Sn are graphically represented. In the first system the modulus of elasticity and the relative resistance to wear increase linearly with increasing nickel content, whereas Vickers hardness has a maximum with 55% nickel. Fig. 3 shows that the hardness of the system Pb-Sn increases quickly from 0 to a few % of Sn, and that this increase is lower in the case of a higher Sn content. The modulus of elasticity and the relative resistance to wear do not increase linearly with an increasing Sn-content. In the case of the results obtained, not only measured values obtained by the authors, but also such obtained by other scientists were used. The influence exerted by chemical compounds, the lattice structure, and the microstructure upon the determined quantities is shown, and the importance of the results obtained for the theory of wearability and for the research for new wear-resistant materials are pointed out. There are 3 figures and 12 references, 8 of which are Soviet.



Card 2/3

The Resistance to Abrasive Wear and the Modulus of  
Elasticity of Metals and Alloys

S/020/60/; 31/06/25/071  
B014/B007

ASSOCIATION: Institut mashinovedeniya Akademii nauk SSSR (Institute of Machine  
Construction of the Academy of Sciences, USSR)

PRESENTED: December 18, 1959, by A. A. Blagonravov, Academician

SUBMITTED: December 1, 1959



Card 3/3

KIRKAM R.V., M.R.; 1961 (and, 1971)

Conformity between the absorption coefficient of iron,  
alloys and certain minerals at their melting point. Sov.  
J. Iron. & Steel. no. IV; p. 12, 1961.

Abrasion resistance and density of high-carbon steels. Ibid.: 13-22

(USSR, 1961)

BABICHEV, M.A.; VELIKANOVA, A.A.; KRAPOSHINA, L.B.

Effect of manganese on the abrasive wear of steel with one per  
cent carbon content and of iron alloys. Tren.i izn.mash.  
no.15:11-30 '62. (MIRA 15:6)  
(Manganese) (Steel--Testing) (Iron alloys--Testing)

KHRUSHCHOV, M. M.; BABICHEV, M. A.

"Resistance to abrasive wear and physical properties of materials."

report submitted to Intl Lubrication Conf, Washington, D.C., 13-16 Oct 64.

KHRUSHCHOV, M. M.; BABICHEV, M. A.

"Resistance to abrasive wear and physical properties of materials."

report presented at the Intl Lubrication Conf, Washington, D.C., 13-16 Oct  
64.

Inst for Study of Machines, Lab of Wear Resistance, Moscow.

L4652-65 EPA(s)-P/EWT(m)/EWP(w)/EPP(n).?/EWA(z)/T/EWP(t)/EWP(k)/EWF(z)/  
EAP(l)/EWT(m)/Pf.1/Pf.2/Pf.3/Pf.4/Pf.5/Pf.6/Pf.7/Pf.8/Pf.9  
ACCESSION NR: AT5010236 UR/2711/64/000/019/0003/0016

AUTHOR: Khrushchov, M. M. (Doctor of technical sciences, Professor); Babichev, M. (Candidate of technical sciences)

TITLE: Effect of heat treatment and mechanical working of certain alloy steels on their resistance to abrasive wear

SOURCE: AN SSSR, Institut mashinovedeniya, Treniye i iznos v mashinakh, no. 19, 1964. Iznos i treniye metallov i plastmass (Wear and friction of metals and plastics), 3-16

TOPIC TAGS: alloy steel, steel heat treatment, work hardening, steel wear resistance, chromium steel, steel hardness, molten lead quenching

ABSTRACT: A comparison of various methods for increasing the strength of steel shows, on the basis of previously published data, that the highest relative wear resistance for a given hardness is produced by alloying, followed by quenching and annealing and then by work hardening. In the present study, chromium and high-chromium steel 7Kh and Kh12P1, quenched in molten metal quenching bath at various temperatures were studied.

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art, has: 0 figures and 0 tables.

ASSOCIATION: none

SUBMITTED: 00 -----

ENCL: 00

SUB CODE: NY

NO REF Sov: 004

OTHER: 000

Card 2/2 *cl*

APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000102820020-6"

BABICHEV, M.A.; VELIKANOVA, A.A.

Effect of manganese content on the resistance of steel to  
abrasive wear. Metalloved. i term. obr. met. no.5:35-37  
My '64. (MIRA 17:6)

1. Institut mashinovedeniya AN SSSR.

KHRUSHCHOV, M.M., zasluzhennyy deyatel' nauki i tekhniki, doktor tekhn.  
nauk, prof.; BABICHEV, M.A., kand. tekhn. nauk

Experimental fundamentals of the theory of abrasive wear. Vest.  
mashinostr. 44 no.6:56-62 Je '64. (MIRA 17:8)

SHERGORYOV, M.M., zasluzhennyy sotsialisticheskii tekhnolog, doktor tekhn.nauk, prof.; BABICHEV, M.A., kandidat tekhn.nauk; PRUZHANSKII, Ye.S., kandidat tekhn.nauk; PRUZHANSKY, L.Yu., kandidat tekhn.nauk

Determining the wear resistance of hard coatings. Vest.mashinostr.  
45 no.2:34-39 F '65. (VNIIM 12:4)

KHRUSHCHOV, M.M.; BABICHEV, M.A.

Effect of heat treatment and strain hardening of certain alloyed  
steels on their resistance to abrasive wear. Tren. i izn. v mash.  
no.19:3-16 '64. (MIRA 18:3)

KHRUSHCHOV, M.M. (Moskva); BABICHEV, M.A. (Moskva); CHZHAO-YUAN<sup>1</sup> [Chao-Yuan] (Moskva)

Using sand entrained by a rubber disk in testing steels for abrasive wear. Mashinovedenie no.1:110-718 '65.

(MIRA 38:5)

L 3563-66 EWT(d)/EWT(m)/EWP(w)/EPF(c)/EWP(v)/T/EWP(t)/EWP(k)/EWP(h)/EWP(b)/  
ACCESSION NR: AT5022672 EWP(1) IJP(c) JD/DJ/GS UR/0000/65/000/000/0138/0142  
*xx*

AUTHORS: Khrushchov, M. M.; Babichev, M. A.

*34*  
*31*  
*P41*

TITLE: Some results of the investigation of abrasive wear of materials

SOURCE: AN SSSR. Nauchnyy sovet po treniyu i smazkam. Teoriya treniya i iznosa  
(Theory of friction and wear). Moscow, Izd-vo Nauka, 1965, 138-142

TOPIC TAGS: abrasive wear, metal wear, friction wear / Kh4 B friction machine

ABSTRACT: A method for studying the abrasive wear of materials on friction machine Kh4-B was developed and used to determine certain wear relationships. In this method the tested material is drawn over stationary abrasive particles with fresh abrasive area continuously available. From experiments it has been established that the volume wear or linear wear (constant area) is directly proportional to the specific load and the length of friction path

$$\Delta l = cp \Delta s.$$

It was found that the relative wear resistance  $\Delta l_s / \Delta l_M = \epsilon$  (where s, M refer to a standard material and the tested material respectively) is a strong function of relative hardness  $H_M$  and  $H_a$  ( $H_a$  = abrasive material hardness) as shown in Fig. 1

Card 1/3

L 3563-66  
ACCESSION NR: AT5022672

5

on the Enclosure. There is no wear in region I, sharp wear increase in region II, and fairly constant wear for  $H_a > kH_M$  (region III). For metals  $K = 1.4-1.6$ . Experiments by the authors indicate also that a similar behavior is true for non-metals (absolute wear in both cases also depends on other properties of abrasives such as size, frequency, etc.). Curves of  $\varepsilon$  as a function of material hardness were obtained for a large number of metals and minerals. It was found that:  
1) the curve for minerals had a slope 11.4 times smaller than that for metals;  
2)  $\varepsilon$  was unaffected by residual stresses and work hardening and for a large number of metals and minerals had the relation

( $\varepsilon$  referred to tin alloy); 3) the characteristic number  $\varepsilon \cdot 10^2/H$  for pure metals was 13.74 and for minerals 1.20. Orig. art. has: 3 figures and 3 formulas.

ASSOCIATION: Nauchnyy sovet po treniyu i smazkam, AN SSSR (Scientific Committee on Friction and Lubrication, AN SSSR) 44

SUBMITTED: 18May65

ENCL: 01

SUB CODE: MT

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NO REF SOV: 003

OTHER: 000

Card 2/3

L 3563-66  
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ENCLOSURE: 01

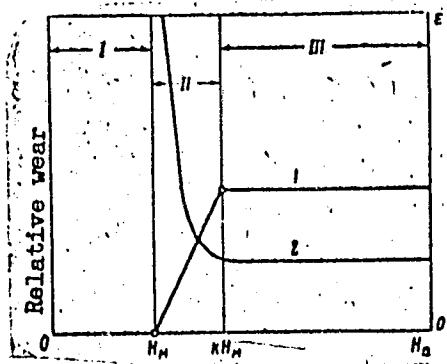


Fig. 1.  
Wear (1) and wear resistance (2) of material with hardness  
 $H_M$  vs  $H_a$

*mfr*  
Card 3/3

BELYAYEV, A.A., kand. med. nauk; BABICHEV, K.N.

Inactivation of trypsin in the treatment of acute pancreatitis.  
Khirurgiia 40 no.7:120-124 Jl '64.

(MIRA 18:2)

1. 3-ya khirurgicheskaya klinika (zav. O.I. Vinogradova) Instituta  
imeni N.V. Sklifosovskogo (glavnnyy khirurg - chlen-korrespondent  
AMN SSSR prof. B.A. Petrov), Moskva.

L 17555-66 ETC(m)=6/T=2/EHP(f) MM  
ACC NR: AP6006397

SOURCE CODE: UR/0413/66/000/002/0141/0142

INVENTOR: Babichev, M. S.

ORG: none

TITLE: Mixed-flow turbine. Class 46, No. 178244

34

B

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 2, 1966, 141-142

TOPIC TAGS: mixed flow turbine, turbine engine, turbine nozzle diaphragm, turbine design

ABSTRACT: The proposed mixed-flow turbine is equipped with a special coverplate for the nozzle diaphragm and rotor (see Fig. 1). To simplify construction and improve reliability, the cover plate is made in the form of a shaped disk, which is connected to the turbine exhaust duct by an elastic seal. This seal separates the turbine chamber with a high inlet pressure from the low pressure chamber creating a pressure

Card 1/2

UDC: [621.165+621.438]—

Z

L 17555-66

ACC NR: AP6006397

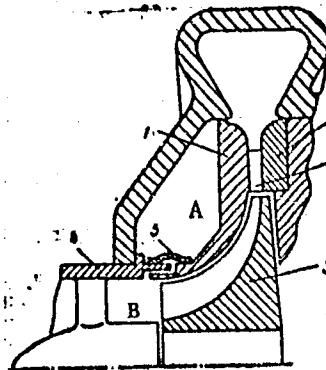


Fig. 1. Mixed-flow turbine

1 - Cover plate; 2 - nozzle diaphragm;  
3 - rotor; 4 - exhaust duct; 5 - elastic  
seal; 6 - nozzle diaphragm blades; A - high-  
pressure chamber; B - low-pressure chamber.

difference on each side of the disk, which holds the disk in the proper position.  
Orig. art. has 1 figure. [TN]

SUB CODE: 21/ SUBM DATE: 28Dec63/ ATD PRESS: 4211

Card 2/2 net

POKROVSKIY, N.M. [author]; BABICHEV, N.S., gornyy inzhener [reviewer].

"Sinking vertical mine shafts by the usual method." N.M.Pokrovskii. Reviewed  
by N.S.Babichev. Ugol' vol.28 no.11:46-48 N '53. (MLRA 6:11)  
(Pokrovskii, N.M.) (Shaft sinking)

BABICHEV, N.S., inzhener.

Worthwhile pamphlets. Mekh.trud.rab. 8 no.8:47 D '54. (MLRA 8:1)  
(Mining engineering)

BABICHEV, N.S., inzhener.

The height of ring segments for lining vertical shaft collars.  
Shakht.stroi. no.4:17-19 Ap '57. (MIRA 10:7)  
(Shaft sinking) (Mine timbering)

BABICHEV, N.S.

BABICHEV, N.S., inzh.

Interesting booklet ("Organizing continuous operations  
in new mine construction" by I.S. Stoev. Reviewed by N.S.  
Babichev. Shakht. stroi. no.12:3 of cover D '57. (MIRA 11:1)  
(Coal mines and mining)

BABICHÉV, N.S., gornyy inzhener; GUDZ', A.G.

"Progressive methods of shaft sinking" by N.V. Shilov, M.B. Udalkin.  
Reviewed by N.S. Babichev, A.G. Gudz'. Gor. zhur. no.7:78-79 Jl '57.  
(MIRA 10:8)

1. Kafedra provedeniya gornykh vyrabotok Donetskogo industrial'nogo  
instituta.  
(Shaft sinking) (Shilov, N.V.) (Udalkin, M.B.)

BABICHEN, N.S.

BABICHEN, N.S., inzh.

"Mining practices in the Chinese People's Republic". Mekhn. trud.  
rab. 11 no.12:46 D '57. (MIRA 11:3)  
(China--Mining engineering)

BABICHEV, N. S.: Master Tech Sci (diss) -- "Investigation of methods of passing through the mouths of vertical mine shafts in the Donbass". Stalino, 1952.  
25 pp (Min Higher Educ Ukr SSR, Donets Order of Labor Red Banner Industrial Inst),  
150 copies (KL, No 6, 1952, 171)

BABICHEV, N.S., inzh.

Lining shaft collars with reinforced concrete tubing. Shakht.  
stroi. no. 2:24-26 '58. (MIRA 11:3)  
(Shaft sinking) (Mine timbering)

BABICHEV, N.S., kand.tokhn.nauk

"Rapid mining of development working" by A.E. Nekrasovskii.  
Reviewed by N.S. Babichev. Ugol' Ukr. 5 no.10:46 0 '61. (MIRA 1/12)  
(Coal mines and mining)  
(Nekrasovskii, A.E.)

BABICHEV, N.S., kand. tekhn. nauk

Driving 327 meters of drift in one month along a single face,  
Slav. stroi, 5 no. 12:18-19 D '61.  
(BIR 14:12)

1. Donetskiy politekhnicheskiy institut.  
(Donets Basin--Coal mines and mining--Labor productivity)

BABICHEV, N.S., kand.tekhn.nauk; BOBROV, I.V., zasluzhennyy deyatel' nauki i tekhniki USSR; ROSINSKIY, N.L., kand.tekhn.nauk; KRAMER, S.M., inzh.

"Boring and blasting operations" by P.IA.Taranov. Reviewed by N.S.Babichev and others. Ugol' 36 no.3:62 Mr '61. (MIRA 14:5)

1. Donetskiy industrial'nyy institut (for Babichev).
2. Makeyev'skiy nauchno-issledovatel'skiy institut (for Bobrov, Rosinskiy).
3. Kombinat Stalimugol' (for Kramer).  
(Blasting) (Taranov, P.IA.)

BABICHEV, N.S., kand.tekhn.nauk; GUZEYEV, A.G., kand.tekhn.nauk

"Sinking and deepening vertical shafts" by S.A.Fedorov. Reviewed  
by N.S.Bavichev. Gor.zhur. no.4:76-78 Ap '62. (MIRA 15:4)

1. Donetskiy politekhnicheskiy institut.  
(Shaft sinking) (Fedorov, S.A.)

TARANOV, Petr Yakovlevic., KHANUKAYEV, A.N., prof., retsenzent;  
BUBOK, V.K., retsenzent; BOROVIKOV, V.A., retsenzent;  
KARPUNOV, Ye.G., retsenzent; MISNIK, Yu.M., retsenzent;  
SMIRNOV, N.A., retsenzent; RAZAMAT, V.V., retsenzent;  
SAVRASOV, L.M., retsenzent; YURMANOV, Yu.A., retsenzent;  
BABICHEV, N.S., retsenzent

[Blasting operations] Burovzryvnye raboty. Izd.2. Mo-  
skva, Nedra, 1964. 253 p. (MIRA 18:7)

ORLOV, Vasilii Vasil'yevich; YANCHUR, Aleksandr Mikhaylovich;  
BABICHEV, Nikolay Semenovich; PETROV, Anatoliy  
Moiseyevich; PONOMARENKO, Aleksey Kuz'mich; GUDZ',  
Aleksandr Grigor'yevich; POKROVSKIY, N.M., zasl. deyatel'  
nauki i tekhniki RSFSR, prof., doktor tekhn. nauk,  
ratsonzent; CHERNEGOVA, E.N., ved. red.

[Mine workings and their support] Provedenie i kreplenie  
gornykh vyrabotok. [By] V.V.Orlov i dr. Moskva, Nedra,  
(MIRA 18:7)  
1965. 496 p.

BABICHEV, N.S., kand. tekhn. nauk

Labor productivity of miners and the cost of drifts worked  
at a fast rate. Izv. vys. ucheb. zav.; gor. zhur. 7 no.10:  
40-43 '64. (MIRA 18:1)

1. Donetskiy politekhnicheskiy institut. Rekomendovana kafedroy  
provedeniya i krepleniya gornykh vyrabotek i burevtryvnykh rabot.

BABICHEV, N.S., kand. tekhn. nauk

The work of the mining brigade is a school of progressive practices.  
Shakht. stroi. 8 no.10:25-28 O '64. (MIRA 17:12)

BABICHEV, P.I.; KEDROV, V.S.; PONOMAREV, F.G.; SHAVKIN, G.B., inzhener,  
redaktor; KHITROV, P.A., tekhnicheskiy redaktor.

[Handbook for supervisors of passenger trains] Pamiatka kontroli-  
ruiushchemu passazhirskii poezd. Moskva, Gos. transp. zhel-dor. izd-  
vo, 1953. 153 p. [Microfilm]  
(Railroads--Passenger traffic) (MLRA 7:11)

SHPAKOV, I.M., red.; ABDRAKHMANOV, M.I., red.; BABICHEV, R.I.,  
inzh., red.; BOGOYAVLENSKIY, V.F., red.; VALITOV, Z.G.,  
red.; ROMANOV, Yu.D., red.; SAYFULLIN, S.Sh., red.;  
~~ZATULLIN, I.D.~~, tekhn. red.

[New devices for making gas analyses and automatically regulating  
the temperature of various media] Novye pribory gazovogo  
analiza i avtomaticheskogo regulirovaniia temperatury razlich-  
nykh sred. Kazan', 1961. 169 p. (MIRA 15:7)

1. Tatar A.S.S.R. Samostoyatel'noye konstruktorsko-tehnologicheskoye byuro po proyektirovaniyu meditsinskikh i fiziologicheskikh priborov. 2. Glavnyy inzhener Samostoyatel'nogo konstruktorsko-tehnologicheskogo byuro po proyektirovaniyu meditsinskikh i fiziologicheskikh priborov (for Abdrrakhmanov). (Scientific apparatus and instruments) (Thermostat)

RABICHEV, S.I.

Peripheral blood pressure in closed cerebro-cranial trauma. Uchen.  
zapiski vtor. moskov. med. Inst. Stalina Vol 2:110-113 1951.  
(CIML 21:4)

1. Assistant. 2. Department of General Surgery (Head--Honored Worker  
in Science Prof. V.P. Voznesenskiy).

BABICHEV, S.I., dotsent (Moskva, B.B Kaluzhskaya, d. 10. Fakul'tetskaya  
khirurgicheskaya klinika)

Postoperative mediastinitis. Vest. khir. 74 no.4:66-72 Je '54.  
(MLRA 7:7)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zav. prof. B.V.  
Petrovskiy) pediatriceskogo fakul'teta 2-go Moskovskogo meditsinskogo  
instituta im. I.V.Stalina.

(MEDIASTINITIS, etiology and pathogenesis,

\*gastrointestinal surg.)

(GASTROINTESTINAL SYSTEM, surgery,

\*postop. mediastinitis)

RABICHEV, S.I., dotsent

Prevention and therapy of surgical shock. Khirurgia no.3:24-28  
Mr '55. (MIRA 8:7)

1. Iz Kliniki fakul'tetskoy khirurgii (zav.-chlen-korrespondent  
AMN SSSR prof. B.V.Petrovskiy) pediatriceskogo fakul'teta II Mo-  
kovskogo meditinskogo instituta imeni I.V.Stalina.

(SHOCK,

surg., prev. & ther.)

(SURGERY, OPERATIVE, complications,  
shock, prev. & ther.)

PETROVSKIY, B.V., professor; BABICHEV, S.I., dotsent; KOLYUTSKAYA, O.D.,  
kandidat meditsinskikh nauk.

Artificial hypothermia in experimental cardiac surgery. Khirurgia  
no.9:6-14 S '55. (MIRA 9:2)

(HEART, surg.  
exper.controlled hypothermia)  
(BODY TEMPERATURE  
hypothermia, in exper.heart surg.)

RABICHEV, S.I., dotsent

Valvulotomy method in congenital stenosis of the pulmonary artery.  
Khirurgija 32 no.3;28-34 Mr '56. (MLRA 9:7)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zav.-chlen-korrespondent AMN SSSR prof. B.V.Petrovskiy) II Moskovskogo meditsinskogo instituta imeni I.V.Stalina.

(PULMONARY STENOSIS,  
congen., valvulotomy (Rus))

PETROVSKIY, B.V., prof.; RABICHEV, S.I., dots.

Achievements in the surgical treatment of diseases of the thoracic portion of the esophagus. Khirurgija 33 no.10:54-63 O '57.  
(MIRA 11:2)

1. Iz gospital'noy khirurgicheskoy kliniki imeni A.V.Martynova (dir. - deystvitel'nyy chlen AMN SSSR prof. B.V.Petrovskiy) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M.Sechenova (dir. - prof. V.V.Kovanov)

(ESOPHAGUS, surg.  
thoracic esophagus, progr. in Russia (Bus))

BABICHENKOV, S.I., dots.

Determination of indications for total gastrectomy [with summary  
in English]. Khirurgia 33 no.11:38-46 N '57. (MIRA 11:2)

1. Iz gospital'noy khirurgicheskoy kliniki I Moskovskogo ordena  
Lenina meditsinskogo instituta imeni I.M.Sechenova (dir. -  
deystvitel'nyy chlen AMN SSSR prof. B.V.Petrovskiy)  
(GASTRECTOMY  
total, indic. (Rus))

BABICHEV, S.I., dots., CHUDNOVSKIY, P.D., kand.med.nauk, YUFIT, S.Ye.

Significance of the coagulogram in studying blood coagulation in  
surgical patients [with summary in English]. Khirurgija 34 no.10  
96-101 0 '58 (MIRA 11:11)

1. Iz gospital'noy khirurgicheskoy kliniki (dir. deystvitel'nyy  
chlen AMN SSSR zaslyzhenyy deyatel' nauki prof. B.V. Petrovskiy)  
I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M.  
Sechenova.

(BLOOD COAGULATION,  
coagulogram in surg. dis. (Rus))

PETROVSKIY, B.V., prof.; BABICHEV, S.I., dots.; NIKOLAYEV, N.O.

Alloplasty with polyvinyl alcohol prostheses in recurrent inguinal hernia.  
Khirurgiia 34 no.12:26-31 D '58. (MIRA 12:1)

1. Iz kafedry gospital'noy khirurgii I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M. Sechenova.

(INGUINAL HERNIA, surg.

alloplasty using polyvinyl prosth. (Rus))  
(VINYL COMPOUNDS

polyvinyl prosth. in inguinal hernia alloplasty (Rus))

BABICHEV, S. I., Doc Med Sci -- (diss) "Total gastroectomy." Moscow, 1960. 18 pp; (Academy of Medical Sciences USSR); 200 copies; price not given; (KL, 26-60, 142)

PETROVSKIY, B.V., prof.; ZODIYEV, V.V., prof.; BABICHEV, S.I., dotsent;  
TESLYA, T.A.

Diagnosis of the localization of commissures in mitral stenosis.  
Terap.arkh. 32 no.8:33-39 Ag '60. (MIRA 13:11)

1. Iz gospital'noy khirurgicheskoy kliniki (dir. - prof. B.V.  
Petrovskiy) I Moskovskogo ordena Lenina meditsinskogo instituta  
i iz Gosudarstvennogo nauchno-issledovatel'skogo instituta rent-  
geno-radiologii Ministerstva zdravookhraneniya RSFSR.  
(MITRAL VALVE—DISEASES)

BABICHIN, V.N.

Important problems in the surgical treatment of stomach cancer.  
Trudy ? '71 16:00-123 '62. (MIRA 17:1)

1. Iz kafedry gospital'noy khirurgii (zav. - deyatel'nyy  
st. len. AMN SSSR prof. B.V.Betrovskiy) I Moskovskogo ordena Lenina  
meditsinskogo instituta imeni Sechenova.

BABICHEV, Stepan Ivanovich; SIMONYAN, K.S., red.; LYUDKOVSKAYA, N.I.,  
tekhn. red.

[Total gastrectomy] Total'naia gastrektomiia. Moskva, Medgiz,  
1963. 194 p. (MIRA 16:3)  
(STOMACH--SURGERY)

BABICHEN, S. I., prof.; CHUDNOVSKIY, P. D., kand. med. nauk

Mechanical sutures in total gastrectomy. Khirurgija 39 no.12:  
71-75 D '63 (MIA 18:1)

1. Iz gosпитal'noy khirurgicheskoy kliniki (direktor - dey-stvitel'nyy chlen AIU SSSR prof. B.V. Petrovskiy) i Moskov-skogo ordena Lenina meditsinskogo instituta imeni I.M. Sechenova i khirurgicheskogo etdeleniya ("nauchnyy rukovoditel' - prof. S.I. Babichev) 67-y Gorodskoy klinicheskoy bol'nitsy (glavnyy vrach P.S. Petrushko), Moskva.

BABICH V, Dr.I., prof.; 12<sup>th</sup> hundred, V.M.

Byuro of the nacenterium lenin. Klinika po kardio-110  
ja 10.

(KIF 17:11)

1. Kafedra hospital'noy khirurgii (zav. - lektsivitel'nyy chlen  
AN SSSR prof. N.V. Petruskiy) i "ospkovskogo ordena Lenina  
meditsinskogo instituta imeni Sechenova i khirurgicheskoy et-  
seioniye (nauchnyy rukovoditel' - prof. S.I. Balichev) 6'-y  
korpusnyy klinicheskoy bolnitsy.

Rebelat, L... prof. Valerii V. Gulyayev, dem. 1961

In many multiple cases of torture by KGB agents (see also  
Soviet Ap. 164) (see also)

It is also apparent he could easily blackmail his captors.  
Therefore, given CIA's lack of P.W. information, it is believed  
that the Berlin agent would be most effective if he were to be  
released.

BABICHEV, S.I., prof.; OSTROVSKIY, V.M.

Use of a polyvinyl alcohol sponge in substituting defective soft tissues. Vest. khir. 93 no.9:46-49 S '64. (MIRA 18:4)

1. Iz gospital'noy khirurgicheskoy kliniki (zav. - prof. B.V. Petrovskiy) 1-go Moskovskogo ordena Lenina meditsinskogo instituta imeni Sechenova i Moskovskoy gorodskoy klinicheskoy bol'nitsy No.67 (glavnnyy vrach - P.S.Petrushko).

(2)

Effects of procaine and cocaine on coronary vessels  
V. A. Babichev (Stalin 2nd Med. Inst., Moscow). *Forma-  
kol. i Toksikol.* 16, No. 6, 21-3 (1953).—Procaine and cocaine dilate the coronary vessels of isolated cat heart. The cocaine effect rises with cocaine, from 10 to 10,000 p.p.m.; but procaine is inactive at 10, and more active at 100 than at 1000 p.p.m. Julian E. Smith

BABICHEV, V. A.

The resorption behavior of procaine, dicaine, and cocaine. V. A. Babichev (I. V. Stalin Med. Inst., Moscow). *Zh. Fiziol.* 17, No. 3, 24-30 (1954).—Respiratory depression due to adrenaline is intensified less by cocaine than by dicaine and procaine; all 3 intensify the effect of adrenaline on blood pressure, but not that of acetylcholine on respiration. Procaine at 15 and cocaine at 1 mg./kg. (but not dicaine) are mildly cholinolytic after treatment with acetylcholine. The tests were made with cats.

Julian P. Smith

BABICHENY, V. A.

USSR

Cardiac effects of cocaine synthesized by A. F. Smith  
and V. A. Babichenko. M. S. M. 1964. 17  
Effects of cocaine on the electrocardiogram of the dog  
and cat. In: Proc. Roy. Soc. Med., Vol. 57, No. 1, Jan. 1964.  
The effects of cocaine on the ECG of the dog and cat  
are described. The changes observed in the ECG  
of the dog and cat are similar. The most prominent changes  
in the ECG of the dog are: (1) Widening of the QRS  
complex; (2) change in peaks P, Q, and R; and (3)  
widening of the ST segment. The changes in the ECG  
of the cat are: (1) Widening of the QRS complex;  
and (2) change in peaks P, Q, and R. The changes  
observed in the ECG of the dog and cat are characteristic  
of cocaine and are not observed in other drugs.  
Both (but not mecamylamine) widened valley PQ. Saccaine  
sometimes caused extrastolic heart block. Observed  
effects do not preclude the possibility that cocaine and  
perhaps mecamylamine act on the myocardium as well as on the  
cardiovenous function. Julian F. Smith

SOKOLOV, V.M.; BABICHEV, V.A.; PANACHIN, F.G., otvetstvennyy redaktor;  
KUZNETSOVA, V.I., redaktor; BOGOLYUBOVA, R.N., tekhnicheskij  
redaktor

[The Ivanovo-Voznesensk general strike of 1905; a collection of  
documents and papers] Vseobshchaja stachka Ivanovo-Voznesenskikh  
rabochikh v 1905 godu; sbornik dokumentov i materialov. [Ivanovo]  
Ivanovskoe kn-vo, 1955, 258 p. (MLRA 9:12)  
(Ivanovo--General strike, 1905)

B A B I C H E V , E. P.

U S S R

✓ Effects of novocaine, cocaine, and cocaine on cholinesterase. V. A. Babichev (I. V. Stalin 2nd State Med. Inst., Moscow). *Tidsskrift for Teknisk*, 18, No. 3, 37-40 (1955).  
Subcutaneous and intravenous 3-injection doses of procaine (15 mg./kg.), cocaine, and cocaine (each 1 mg./kg.) in rabbits did not impair cholinesterase activity. *In vitro* cholinesterase is inhibited by all 3 at dilns. of 0.00015 and 0.00003; at 0.0000020 procaine is inactive and cocaine and cocaine are only occasionally effective. J. F. S.

Babiehev, V. A.

Pharmacological properties of some compounds in the piperidine series. V. A. Babiehev (I. V. Stalin 2nd State Med. Inst., Moscow). *Farmakol i Toksikol*, 18, No. 6, 50-2(1955).—The 1-alkyl-4-amino-2,5-dimethylpiperidines,

RN.C(Me)CH<sub>2</sub>CH(NHR')CHMeCH<sub>3</sub>, in which R = Et, R' = Me (I); R = Pr, R' = H (II); R = Pr, R' = Me (III); and R = Bu, R' = Me (IV) showed relatively high toxicity and low therapeutic activity in mice, cats, and frogs. All were synthesized in the lab.; they are white water-sol. crystn. powders, odorless excepting II (carrot odor). In mice L.D.<sub>50</sub> in mg./kg. (intravenous dosage) was: I 320, II 215, III 185, IV 142; death followed respiratory paralysis and cardiac failure. The compds. have no effect on cholinoreceptors and only feeble myotropic activity. Small doses have transitory pressor action but larger doses lower blood pressure, slow cardiac rhythm, and depress respiration.

Julian F. Smith

BABICHEV, V.A. (Moskva)

Pharmacologic activity of novocaine; review of the literature.  
Vest. AMN SSSR 11 no.1:41-47 '56. (MLRA 9:5)

1. Iz kafedry farmakologii (zav.--deyatel'nyy chlen AMN SSSR prof. V.I. Skvortsov) II Moskovskogo meditsinskogo instituta imeni I.V. Stalina.

(PROCAIN  
pharmacol., review)

BABICHEV, V.A.

Effect of novocaine, dicaine and sovcaine on the body. Trudy Vses.  
ob-va fisiol., biokhim. i farm. 3:140-146 '56 (MLRA 10:4)

1. Kafedra farmakologii 2-go Moskovskogo meditsinskogo instituta im.  
I.V. Stalina; zaveduyushchiy kafedroy professor V.I. Skvortsov.  
Moskva.

(NOVOCAINE) (TETRACAIN) (DIBUCAIN)

BABICHEV, V.A.

USSR/Pharmacology. Pharmacognosy. Toxicology - Local Anaesthetics. T-4

Abs Jour : Referat Zhur - Biologiya, No 16, 1957, 71695

Author : Babichev, V.A.

Inst :

Title : The Comparative Effect of Novocaine, Dicaine and Sovcaine  
on the Breathing and Circulation of Cats and Rabbits.

Orig Pub : Farmakol. i Toksikologiya, 1956, (1957) Addendum 15-16

Abstract : The tests were done on cats and rabbits under urethane anaesthesia. The substances were introduced intravenously. It was shown that 0.5-1 mg/kg of novocaine (I), 0.5 mg of dicaine (II), 0.1 mg/kg sovcaine (III) produces a pressor or depressor effect on the blood pressure. I in 5 mg/kg doses, II in 1 mg/kg and III in 0.5 mg/kg produced a hypotensive effect lasting only 10-15 minutes; with increased doses the level of blood pressure lowering increases, but not uniformly. I in doses of 0.5-1 mg/kg increased the frequency of heart contractions; II and

Card 1/2

- 28 -

USSR/Pharmacology. Pharmacognosy. Toxicology - Analgesics.

T-3

Abs Jour : Referat Zhur - Biologiya, No 16, 1957, 71685

pressure.

Observed side reactions - headaches, dizziness,  
perspiration - disappeared rapidly.

I did not appear to be habit forming.

Kafedra farmakologii (zav. - zasluzhennyj deystvatel'nyj  
chlen AMN SSSR prof. V. I. Skvortsov) II Moskovskogo gosudarstvennogo  
meditsinskogo instituta imeni I. V. Stalina.

Card 2/2

- 27 -

*Babichev, V.A.*

USSR/Pharmacology, Toxicology. Local Anesthetics

V-3

Abs Jour : Ref Zhur - Biol., No 5, 1958, No 23246

Author : Babichev V.A.

Inst : Not Given

Title : A Comparative Characteristic of the Degree of Terminal Anesthesia of Some Local Anesthetics (Novocaine, Cocaine, Dicaine and Sovcaine).

Orig Pub : Farmacol. i toksikologiya, 1956, (1957), prilozh. Sb. ref., 26-27

Abstract : The experiments were carried out on rabbits. The local anesthetics were placed in the conjunctival sac. It was found, that a 1% novocaine solution produced the same effect as a 0.133% cocaine solution, 0.054% dicaine solution, 0.028% sovcaine solution, and that a 0.5% novocaine solution produced the same effect as a 0.056% cocaine solution, a 0.009% dicaine solution, and a 0.007% sovcaine solution.

Chair Pharmacology, 2nd Moscow State Medical Inst. iml. V. Stalin.  
Card : 1/1

BABICHEV, V.A.

Problem of the effect of novocaine, dicaine, and sovcaine on  
vascular baroreceptors and on ganglionic choline-receptors. Farm.  
i toks. 20 no.3:30-33 My-Je '57. (MIRA 10:10)

1. Kafedra farmakologii (zav. - deystvitel'nyy chlen AMN SSSR,  
zasluzhennyy deyatel' nauki prof. V.I.Skvortsov) II Moskovskogo  
gosudarstvennogo meditsinskogo instituta imeni I.V.Stalina.

(ANESTHETICS, LOCAL, effects,  
on vasomotor baroreceptors & carotid sinus choline-  
receptors (Rus))

(BLOOD PRESSURE, effect of drugs on,  
local anesthetics, on vasomotor baroreceptors & carotid  
sinus choline-receptors (Rus))

(CAROTID SINUS, effects, eff. drugs on,  
local anesthetics, on choline-receptors (Rus))

USSR Pharmacology, Toxicology. Local Anesthetics

V-3

Abs Jour : Ref Zhur - Biol., No 5, 1958, No 23244

Author : Babichev V.A.

Inst : Not Given

Title : The Effect on the Organism of Novocaine, Dicaine and Sovcaine  
(Comparative Experimental Study.)

Orig Pub : Tr. Vses. ob-va fiziol. biokhim. i farmakologov, 1956, 3, 140-146

Abstract : The effects of Novocaine (I) in 0.1-20 mg/kg doses, Dicaine (II) and Sovcaine (III) in 0.1-1 mg/kg doses on rabbits and cats and on their isolated organs were studied. They all had a hypotensive effect, depressed respiration, and slowed the cardiac rhythm in doses of 1.-10 mg/kg (I), 1 Mg/kg (II) and 0.5 mg/kg. The three drugs depressed the activity of the isolated heart with a pause in the diastole: I- in a 1:100 solution, II and III in 1:10000 solution. I and II induced coronary vascular dilation. I and II to a smaller degree, depressed the vagus nerve conductivity. III had no such effect. II did not change the cardio-vascular effect of acetylcholine (IV); I and III weakened somewhat IV's hypotensive action. The three drugs

Card : 1/2

USSR/Pharmacology, Toxicology. Local Anesthetics

V-3

Abs Jour : Ref Zhur - Biol., No 5, 1958, No 23245

Author : Babichev V.A.

Inst : Not Given

Title : To the Question of the Influence of Novocaine, Dicaine and Sovcaine on the Vascular Chemical and Pressure Receptors and the Ganglionic Cholinoreceptors.

Orig Pub : Farmakol. i toksikologiya, 1957, 20, No 3, 30-34

Abstract : One hundred and five experiments were carried out on intact and vagotomized cats. Novocaine in a dose of 15 mg/kg, dicaine and sovcaine in doses of 1 mg/kg, and cytisine in a dose of 20 kg were administered intravenously. It was found that the three anesthetics had a cholinolytic action with reference to the chemical receptors of the vessels, ganglia, and carotid nodules of the sino-carotid areas; depressingly acted on the n-cholinoreceptors; in addition novocaine and sovcaine possessed cholin-negative properties with reference to the m-cholinoreceptors. These drugs have an adrenosensibilising action on the receptors of the vessels sensitive to adrenalin. In a double-sided vagotomy they decreased the excitability of the pressure receptors of the sino-carotid reflexogenic areas.

Card

: 1/1 the pressure receptors of the sino-carotid reflexogenic areas.

BABICHEV, V.A.

Effect of novocaine on the bioelectric activity of the cerebral cortex in rabbits; author's abstract. Farm. i toks. 20 no.6:70-71 N-D '57 (MIRA 11:6)

1. Kafedra farmakologii II Moskovskogo gosudarstvennogo meditsinskogo instituta imeni I.V. Stalina (zav. - deyatel'nyy chlen AMN SSSR zasluzhennyy deyatel' nauki prof. V.I. Skvortsov).

(PROCAINE, effects  
on EGG & EMG (Rus))

(ELECTROCARDIOGRAPHY, effect of drugs on,  
procaine (Rus))

(ELECTROENCEPHALOGRAPHY, effect of drugs on  
same)

BABICHEV, V.A., dots.; PIKHTINA, A.A., dots.; KOVALEV, I.Ye.,  
assistant; LAKIN, K.M., assistant; TOLVINSKAYA, L.S.,  
assistant; SAPEZHINSKAYA, N.V., assistant; SERGEYEV,  
P.V., assistant; VASIL'YEVA, V.V., doktor med. nauk,  
prof., red.; VISHNEVETSKAYA, L.B., tekhn. red.

[Laboratory manual in pharmacology and general pre-  
scription writing] Rukovodstvo k prakticheskim zania-  
tiiam po farmakologii i obshchei retsepture. \*Moskva,  
1962. 79 p.  
(MIRA 16:4)

1. Moscow. Vtoroy Moskovskiy meditsinskiy institut.  
(PHARMACOLOGY--LABORATORY MANUALS)  
(PRESCRIPTION WRITING)

BABICHEV, V.A.

Effect of some anesthetics on oxidizing processes in the  
brain and liver tissues. Farm. i toz. 28 no. 5(52)-587  
S-0 '65. (MUD 18:12)

1. Kafedra farmakologii (zav. - prof. M.F. Merkulov) II Moskov-  
skogo meditsinskogo instituta imeni N.I. Pirogov. Submitted  
January 26, 1965.

BABICH V. A.

Efektivnost' tiazin na 5-hydroksitryptamenu i 5-hydroksitryptamenu s 3,4-dihydroxyphenoxydiaminom dienoksylyne. Farm. i tekhn. 28 no.6:684-686 N.D. '65. (MIA 19:1)

I. Kafedra farmakologii (zav. - prof. D.E. Merkulov) V. Moskovskogo radiotekhnicheskogo instituta imeni Pilyajewa.

ACC NR: AP6027890

(W)

SOURCE CODE: UR/0390/66/029/004/0491/0493

AUTHOR: Babichev, V. A.

ORG: Department of Pharmacology, Second Moscow Medical Institute im. N. I. Pirogov (Kafedra farmakologii Vtorogo Moskovskogo instituta)

TITLE: Effect of certain anesthetics on acetylcholine content and cholinesterase activity in the brain tissue of rabbits

SOURCE: Farmakologiya i toksikologiya, v. 29, no. 4, 1966, 491-493

TOPIC TAGS: anesthetic, acetylcholine, cholinesterase activity, cholinoreactive system, ANESTHESIOLOGY, DRUG EFFECT

## ABSTRACT:

Rabbits weighing 1.4 to 2.8 kg. were given anesthetic in single or repeated doses as shown in the table. Doses were given subcutaneously or intravenously. All the tested anesthetics failed to affect the brain cholinesterase activity in rabbits and all but novocaine lowered the acetylcholine content of the brain somewhat. It is believed that anesthetics can compete with acetylcholine in cholinoreactive systems because of the structural similarity of novocaine and its homologs to acetylcholine. Novocaine can decrease the output of acetylcholine by nerve tissue. It has been reported that the cholinolytic effects

Card 1/2

UDC: 615.787-092:612.822.2

ACC NR: AP6027890

of anesthetics are consequences of the depression of acetylcholine synthesis. Anesthetics also directly affect cellular elements such as contractile structures of muscles. [WA-50; CBE No. 11]

SUB CODE: 06/ SUBM DATE: 10Sep65/ ORIG REF: 009/ OTH REF: 009/

Card 210

TYSHCHUK, D. N.; BABICHEV, V. G.

PPK-15m air-feed leg drill. Gor. zhur. no.11:74 N '62.  
(MIRA 15:10)

1. Krivorozhskiy gornorudnyy institut (for Tyshchuk).
2. Nauchno-issledovatel'skiy gornorudnyy institut, Krivoy Rog  
(for Babichev).

(Boring machinery—Pneumatic driving)

BABICHEV, V.V.

[Automobile radiators; calculations, design and production]  
Avtomobil'nye radiatory; raschet, konstruktsiya i proizvodstvo.  
Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1951.  
156 p. [Microfilm] (MLRA 7:10)  
(Automobiles--Radiators)

BABICHEV, V.Z.; TURIANSKIY, V.M.

Automatic cold stamping of small parts. Avt.i trakt. prom. no.4:  
32-35 Ap '56. (MLRA 9:8)

1. Moskovskiy avtozavod imeni Stalina.  
(Sheet-metal work)